

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims**

1. (currently amended) A sensor comprising:  
an enclosure having an input and an output, the enclosure including a permeable wall;  
a light source ~~proximate to~~ adjacent a first end of the enclosure;  
a light detector ~~proximate to~~ adjacent a second end of the enclosure; and  
wherein the enclosure is capable of containing a first fluid.
2. (canceled)
3. (currently amended) The sensor of claim [[2]] 1, wherein the permeable wall can permit entry of a second fluid into the enclosure.
4. (original) The sensor of claim 3, wherein:  
the first fluid is a reagent; and  
the second fluid is an analyte.
5. (original) The sensor of claim 3, further comprising a processor connected to the light detector.
6. (original) The sensor of claim 5, further comprising an indicator connected to the processor.

7. (original) The sensor of claim 6, further comprising a container connected to the input of the enclosure.
8. (original) The sensor of claim 7, further comprising a valve connected to the output of the enclosure.
9. (original) The sensor of claim 8, further comprising a second container connected to the output of the enclosure.
10. (original) The sensor of claim 9, further comprising a second light source proximate to the enclosure.
11. (original) The sensor of claim 10, wherein:
  - the light source has a first wavelength; and
  - the second light source has a second wavelength.
12. (original) The sensor of claim 11, wherein:
  - the first fluid is a reagent; and
  - the second fluid is an analyte.
13. (withdrawn) A fluid sensor comprising:
  - a tube comprising a membrane wall;
  - a reagent supply container connected to a first end of the tube;
  - a reagent disposal container connected to a second end of the tube;
  - a first light source having a first wavelength proximate to the second end of the tube;

Appl. No. 10/727,834  
Amendment dated March 6, 2006  
Reply to Office action dated December 6, 2005

a second light source having a second wavelength proximate to the second end of the tube; and

a light detector proximate to the first end of the tube.

14. (withdrawn) The sensor of the claim 13, further comprising control electronics connected to the first and second light sources, and to the light detector.

15. (withdrawn) The sensor of claim 14, wherein a fluid to be tested may flow proximate to the tube.

16. (withdrawn) The sensor of claim 15, wherein the membrane is permeable for permitting an entry of an analyte from the fluid into the tube.

17. (withdrawn) A sensor comprising:

a first container;

a tube, having a porous wall, connected to the first container; and

a light source proximate to the tube.

18. (withdrawn) The sensor of claim 17, further comprising a reagent in the tube.

19. (withdrawn) The sensor of claim 18, further comprising a valve connected to one end of the tube.

20. (withdrawn) The sensor of claim 19, further comprising a light detector proximate to the tube.

21. (withdrawn) The sensor of claim 20, further comprising a second light source proximate to the tube.

22. (withdrawn) The sensor of claim 20, further comprising a second container connected to the valve.

23. (withdrawn) The sensor of claim 22, further comprising a flow sensor proximate to the tube.

24. (withdrawn) The sensor of claim 23, wherein the sensor is integrated into a phased heater sensing system.

25. (withdrawn) The sensor of claim 24, wherein the sensor is integrated into a cytometer system.

26. (withdrawn) A sensing means comprising:

means for the holding a fluid;

means for providing a fluid to the means for holding the fluid;

means for controlling a flow of a fluid into the means for holding a fluid;

means for illuminating a fluid in the means for holding a fluid; and

means for detecting light from the means for illuminating a fluid via the means for holding a fluid; and

wherein the means for holding a fluid permits analyte to enter the means for holding a fluid.

27. (withdrawn) The sensing means of claim 26, wherein the fluid is a reagent.

28. (withdrawn) The sensing means of claim 27, wherein the means for illuminating emanates light at two different wavelengths.

29. (withdrawn) The sensing means of claim 28, further comprising a means for processing connected to the means for controlling a flow of a fluid, the means for illuminating, and the means for detecting light.

30. (withdrawn) The sensing means of claim 29, further comprising a means for providing information connected to the means for processing.

31. (withdrawn) A method for sensing, comprising:  
    placing a reagent into an enclosure;  
    subjecting the enclosure to an environment containing analyte so that the analyte  
        mixes with the reagent;  
    illuminating the reagent; and  
    detecting light from the reagent.

32. (withdrawn) The method of claim 31, further comprising converting the light into electrical signals.

33. (withdrawn) The method of claim 32, further comprising processing the electrical signals into information about the analyte.

34. (withdrawn) The method of claim 33, further comprising replenishing the reagent in the enclosure.

Appl. No. 10/727,834  
Amendment dated March 6, 2006  
Reply to Office action dated December 6, 2005

35. (withdrawn) The method of claim 34, further comprising repeating the method of claims 31-34.

36. (withdrawn) The method to claim 35, wherein the enclosure has a membrane wall capable of permeation by the analyte.

37. (withdrawn) The method of claim 36, wherein the membrane is capable of containing the reagent in the enclosure.

38. (currently amended) A sensor comprising:

[[an]] a tubular permeable membrane enclosure having an input and an output;  
a light source proximate to a first end of the enclosure;  
a light detector proximate to a second end of the enclosure; and  
wherein the enclosure is capable of containing a fluid.

39. (canceled)

40. (currently amended) The sensor of claim [[39]] 38, wherein the membrane can permit entry of analyte into the enclosure.

41. (original) The sensor of claim 40, wherein the membrane can permit entry of reagent into the enclosure.

42. (original) The sensor of claim 41, further comprising a processor connected to the light detector.

Appl. No. 10/727,834  
Amendment dated March 6, 2006  
Reply to Office action dated December 6, 2005

43. (original) The sensor of claim 42, further comprising an indicator connected to the processor.

44. (original) The sensor of claim 43, further comprising a container connected to the input of the enclosure.

45. (original) The sensor of claim 44, further comprising a valve connected to the output of the enclosure.

46. (original) The sensor of claim 45, further comprising a second container connected to the output of the enclosure.

47. (original) The sensor of claim 46, further comprising a second light source proximate to the enclosure.

48. (original) The sensor of claim 47, wherein:  
the light source has a first wavelength; and  
the second light source has a second wavelength.

49. (original) The sensor of claim 48, further comprising a flow sensor in the enclosure.

50. (currently amended) The sensor of claim 48, wherein each of the light source and the second light source may be a laser type of light source.